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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,900	11/21/2003	Krishnan Chari	86421CPK	1667

7590 07/13/2005

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EXAMINER

WANG, GEORGE Y

ART UNIT	PAPER NUMBER
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2871

DATE MAILED: 07/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/718,900

Applicant(s)

CHARI ET AL.

Examiner

George Y. Wang

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 April 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 10-20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4/4/05; 11/21/03</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election of 1-9 in the reply filed on April 28, 2005 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

### ***Drawings***

2. New corrected drawings in compliance with 37 CFR 1.121(d) are required in this application because the current drawings are informal (particularly the handwritten numbering). Applicant is advised to employ the services of a competent patent draftsman outside the Office, as the U.S. Patent and Trademark Office no longer prepares new drawings. The corrected drawings are required in reply to the Office action to avoid abandonment of the application. The requirement for corrected drawings will not be held in abeyance.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Stephenson (U.S. Patent No. 6,359,673).

5. As to claim 1, Stephenson discloses a display sheet (fig. 5, ref. 10) comprising an optional substrate (30) for carrying layers of material, an imaging layer (11) and comprising a substantial monolayer of isolated domains of liquid-crystal material dispersed in a continuous matrix, said liquid-crystal material (12, 14) having a first reflecting state within the visible light spectrum defining an operating spectrum and a second weakly scattering state in said operating spectrum, wherein said states are capable of being interchanged by an electric field, which states are capable of being maintained as a stable state in an absence of an electric field (col. 4, lines 1-9), wherein said domains of liquid-crystal material comprises a mixture of at least two populations, a first population comprising a first liquid-crystal material having a first  $\lambda_{\max}$  and a second liquid-crystal material having a second  $\lambda_{\max}$  wherein there is a difference between said first and said second  $\lambda_{\max}$  of at least 50 nm (referring to yellow and blue populations, col. 6, lines 14-23), first transparent conductors (32) disposed on one side of said imaging layer, second conductors(40) disposed on an opposite side of said imaging layer.

6. Regarding claim 2, Stephenson discloses a display sheet as recited above where the reflected light from said display sheet when said imaging layer is in the first

reflecting state has CIE tristimulus values X, Y and Z that are within 20 percent of each other (fig. 5, ref. 52; col. 5, lines 46-64).

7. As per claim 3, Stephenson discloses a display sheet as recited above where the first liquid-crystal material has a peak reflected wavelength in the range of 561 to 720 nanometers (red, fig. 5, ref. 34) and said second liquid-crystal material has a peak reflected wavelength in the range of 450 to 560 nanometers (either green or blue, ref. 36, 38).

8. Regarding claim 4, Stephenson discloses a display sheet as recited above where said first and said second liquid-crystal material each comprises a dopant having a first and a second concentration (col. 6, lines 20-23), respectively, wherein said first and said second concentration differs such that the pitch of said second liquid-crystal material is smaller than the pitch of said first liquid-crystal material (col. 4, lines 1-9).

9. As to claim 5, Stephenson discloses a display sheet as recited above where said first liquid-crystal material reflects red having  $\lambda_{\max}$  in a range 630 to 720 nm (red, fig. 5, ref. 34).

10. As per claim 6, Stephenson discloses a display sheet as recited above where said first liquid-crystal material reflects red and said second liquid-crystal material reflects green, blue, or cyan (fig. 5, ref. 34, 36, 38; col. 5, lines 46-64).

11. Regarding claim 7, Stephenson discloses a display sheet as recited above where said first liquid-crystal material is red and said second liquid-crystal material is green (fig. 5, ref. 34, 36, 38; col. 5, lines 46-64).

12. As per claim 8, Stephenson discloses a display sheet as recited above where said first (32) and said second conductors (40) are patterned to produce an addressable matrix (col. 5, lines 39-45).

13. As to claim 9, Stephenson discloses a display sheet as recited above where said domains comprise chiral-nematic liquid-crystal material and said continuous matrix comprises gelatin (col. 4, lines 27-43).

### ***Conclusion***

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Y. Wang whose telephone number is 571-272-2304. The examiner can normally be reached on M-F, 8 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert H. Kim can be reached on 571-272-2293. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2871

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

gw  
July 11, 2005



DUNG T. NGUYEN  
PRIMARY EXAMINER